

IN THE CLAIMS

1. (currently amended) A method of handling and processing blanks (2) for packing tobacco articles; the method comprising the following steps:

locating groups (5; 61) of blanks (2) on pallets (4) in a storage area (3), which comprises an unloading area (11) located at an input end of a processing path (P1) and a loading area (13) located at an output end of the processing path (P1);

moving a first pallet (4a), loaded with groups (5; 61) of blanks (2) for processing, into said unloading area (11);

feeding the groups (5; 61) of blanks (2) on the first pallet (4a) at the unloading area (11) along said processing path (P1) and through at least one work station (45) located along the processing path (P1);

forming the blanks (2) in each said group (5; 61), as they are fed along the processing path (P1), into a succession of individual blanks (2) upstream from the work station (45);

subjecting each said individual blank (2) to at least one processing operation in the work station (45);

regrouping the blanks (2) to reconstruct the relative said group (5; 61) downstream from the work station (45);

moving an initially empty second pallet (4b) into said loading area (13) to receive the groups (5; 61) of processed blanks (2); ~~and~~

feeding the groups (5; 61) of processed blanks (2) from the processing path (P1) onto the second pallet (4b) at the loading area (13); and

feeding the second pallet (4b) loaded with the groups (5; 61) of processed blanks (2) to a packing machine for packing tobacco articles.

2. (canceled)

3. (previously presented) A method as claimed in claim 1, wherein each said group (5; 61) comprises a number of blanks (2) superimposed to form a stack (5), from which the blanks (2) are extracted one at a time, and are arranged in series along said processing path (P1) to be fed, in a succession of individual blanks (2), through said work station (45).

4. (original) A method as claimed in claim 3, wherein the blanks (2) in said succession of individual blanks (2) are regrouped, downstream from said work station (45), to reform a succession of said stacks (5).

5. (original) A method as claimed in claim 3, wherein the individual blanks (2) are extracted from each said stack (5) by feeding each said stack (5) into a fixed hopper (35) closed by a movable suction member (38), and by cyclically activating said movable suction member (38).

6. (previously presented) A method as claimed in claim 5, comprising forming said movable suction member (38) as a drum (38) rotating about a respective axis (39) and having at least one suction sector (40).

7. (previously presented) A method as claimed in claim 5, wherein said individual blanks (2) are arranged in series along said processing path (P1) by moving said movable suction member (38) between positions tangent to said fixed hopper (35) and to a conveyor (41) respectively, and by successively releasing the blanks (2) removed by suction from said fixed hopper (35) onto said conveyor (41).

8. (original) A method as claimed in claim 4, wherein regrouping the blanks (2) downstream from said work station (45) comprises a first braking step, wherein the blanks (2) are overlapped and gradually positioned on edge; a second step of feeding the on-edge said blanks (2) into a container (50) to form a said stack (5) inside the container (50); and a third step of unloading said container (50) onto a conveyor unit (55) for conveying stacks (5).

9. (previously presented) A method as claimed in claim 1, wherein each said group (5; 61) of blanks is formed as a reel (61) of a strip (62) defined by a number of blanks (2) arranged in series and connected to one another; said reel (61) being unwound along said processing path (P1) to arrange said blanks (2) in series and feed them successively through said work station (45).

10. (previously presented) A method as claimed in claim 9, comprising extending said processing path (P1) between an unwinding pin (63) for unwinding a said reel (61), and a rewinding pin (64) for forming a new reel (61).

11. (previously presented) A method as claimed in claim 1, comprising providing said work station (45) with at least one printing station (71) where graphics (72) are printed on each said blank (2).

12. (previously presented) A method as claimed in claim 11, comprising providing said work station (45) with at least one lacquering station (74).

13. (previously presented) A method as claimed in claim 1, comprising providing said work station (45) with at least one station (75) for applying at least one additional identification element to each said blank (2).

14. (previously presented) A method as claimed in claim 1, comprising providing said work station (45) with at least one station (75) for applying at least one spot of hot glue to each said blank (2).

15. (currently amended) A unit for handling and processing blanks (2) for packing tobacco articles, the unit (1) comprising

a line (9) for feeding blanks (2) along a given processing path (P1);

at least one work station (45) located along said processing path (P1) and for subjecting each said blank (2) to at least one processing operation;

first pickup means (26) for removing groups (5; 61) of blanks (2), arranged in groups (5; 61) in a given arrangement in a storage area (3), from the storage area (3), and feeding them onto said line (9) upstream from said work station (45);

second pickup means (28) for removing said blanks (2) in groups (5; 61) from said processing path (P1) downstream from said work station (45), and feeding them, formed into a given arrangement, to said storage area (3);

a number of pallets (4) supporting said blanks (2) in said storage area (3), which comprises an unloading area (11), which is engaged by said first pickup means (26), is located at an input end of said processing path (P1), and receives an initially loaded first said pallet (4a); and a loading area (13), which is engaged by said second pickup means (28), is located at an output end of said processing path (P1), and receives an initially empty second said pallet (4b);

ordering means (35, 38; 63) located along said processing path (P1), upstream from said work station (45), to arrange the blanks (2) in each said group (5; 61) into a succession of individual blanks (2); ~~and~~

regrouping means (47, 52; 64) located along said processing path (P1), downstream from said work station (45), to re-form said groups (5; 61); and

feeding means for feeding the second pallet (4b) loaded with the groups (5; 61) of processed blanks (2) to a packing machine for packing tobacco articles.

16. (canceled)

17. (previously presented) A unit as claimed in claim 15, further comprising a conveyor (41) extending through said work station (45); each said group (5; 61) comprising a number of blanks (2) superimposed to form a stack (5); and said ordering means (35, 38) extracting said blanks (2) one at a time from the relative said stack (5), and depositing the blanks (2) on said conveyor (41) in an orderly succession of individual blanks (2).

18. (previously presented) A unit as claimed in claim 17, wherein said ordering means (35, 38) comprises a fixed hopper (35) having an input (34) for said stacks (5) and a bottom output end; and a suction member (38) movable cyclically past said bottom output end.

19. (original) A unit as claimed in claim 18, wherein said suction member (38) comprises a drum (38) rotating about a respective axis (39) and having at least one suction sector (40).

20. (original) A unit as claimed in claim 18, wherein said drum (38) is tangent to said bottom output end of said fixed hopper (35) and to said conveyor (41).

21. (previously presented) A unit as claimed in claim 15, wherein said regrouping means (47, 52; 64) comprises stacking means comprising braking means (52) for braking the blanks (2) coming off said conveyor (41), and substantially positioning them on edge; at least one container (50) for receiving the on-edge said blanks (2) and forming, inside it, a stack (5) of said blanks (2); and a conveyor unit (55) for receiving said stacks (5) of blanks (2) from said container (50).

22. (previously presented) A unit as claimed in claim 21, wherein said braking means (52) comprises a fixed plate (52) sloping downwards and located at an output end of said conveyor (41) to receive said succession of individual blanks (2); said container (50) having an open end, and being movable, in a given travelling direction, between a loading position, in which said open end is aligned with said fixed plate (52), and an unloading position, in which said open end faces downwards towards said conveyor unit (55).

23. (original) A unit as claimed in claim 22, wherein said container (50) comprises a lateral wall, at the front in said travelling direction, defined by a hatch (51), which is movable between a normal closed position and an open position respectively closing and opening the side of the container (50).

24. (previously presented) A unit as claimed in claim 21, wherein said regrouping means (47, 50) comprises a drum (48), and a number of said containers (50) projecting radially from said drum (48), which is mounted to rotate in steps about a respective axis (49) to move a said container (50), at each step, from a position aligned with said braking means (52), to a position facing said conveyor unit (55).

25. (previously presented) A unit as claimed in claim 16, wherein each said group (61) comprises a reel (61) of a strip (62) defined by a number of blanks (2) arranged in series and connected to one another; said ordering means (63) and said regrouping means (64) comprising an unwinding pin (63) for unwinding said reel (61), and, respectively, a rewinding pin (64) for receiving said strip (62) and forming the strip (62) into a new reel (61); said processing path (P1) extending between said two pins (63, 64), and guide means (67) being provided to guide said strip (62) along said processing path (P1) and through said work station (45).

26. (original) A unit as claimed in claim 15, wherein said work station (45) comprises at least one printing station (71) where graphics (72) are printed on each said blank (2).

27. (original) A unit as claimed in claim 26, wherein said work station (45) comprises at least one lacquering station (74).

28. (original) A unit as claimed in claim 15, wherein said work station (45) comprises at least one station (75) for applying at least one additional identification element to each said blank (2).

29. (original) A unit as claimed in claim 15, wherein said work station (45) comprises at least one station (75) for applying at least one spot of hot glue to each said blank (2).

30. (previously presented) A unit for handling and processing blanks (2) for packing tobacco articles, the unit (1) comprising

a line (9) for feeding blanks (2) along a given processing path (P1);

at least one work station (45) located along said processing path (P1) and for subjecting each said blank (2) to at least one processing operation;

first pickup means (26) for removing groups (5; 61) of blanks (2), arranged in groups (5; 61) in a given arrangement in a storage area (3), from the storage area (3), and feeding them onto said line (9) upstream from said work station (45);

second pickup means (28) for removing said blanks (2) in groups (5; 61) from said processing path (P1) downstream from said work station (45), and feeding them, formed into a given arrangement, to said storage area (3);

a number of pallets (4) supporting said blanks (2) in said storage area (3), which comprises an unloading area (11), which is engaged by said first pickup means (26), is located at an input end of said processing path (P1), and receives an initially loaded first said pallet (4a); and a loading area (13), which is engaged by said second pickup means (28), is located at an output end of said processing path (P1), and receives an initially empty second said pallet (4b);

ordering means (35, 38; 63) located along said processing path (P1), upstream from said work station (45), to arrange the blanks (2) in each said group (5; 61) into a succession of individual blanks (2); and

regrouping means (47, 52; 64) located along said processing path (P1), downstream from said work station (45), to re-form said groups (5; 61); wherein said regrouping means (47, 52; 64) are stacking means comprising braking means (52) for braking the blanks (2) coming off said conveyor (41), and substantially positioning them on edge; at least one container (50) for receiving the on-edge said blanks (2) and forming, inside it, a stack (5) of said blanks (2); and a conveyor unit (55) for receiving said stacks (5) of blanks (2) from said container (50).

31. (previously presented) A unit for handling and processing blanks (2) for packing tobacco articles, the unit (1) comprising

a line (9) for feeding blanks (2) along a given processing path (P1);

at least one work station (45) located along said processing path (P1) and for subjecting each said blank (2) to at least one processing operation;

first pickup means (26) for removing groups (5; 61) of blanks (2), arranged in groups (5; 61) in a given arrangement in a storage area (3), from the storage area (3), and feeding them onto said line (9) upstream from said work station (45);

second pickup means (28) for removing said blanks (2) in groups (5; 61) from said processing path (P1) downstream from said work station (45), and feeding them, formed into a given arrangement, to said storage area (3);

a number of pallets (4) supporting said blanks (2) in said storage area (3), which comprises an unloading area (11), which is engaged by said first pickup means (26), is located at an input end of said processing path (P1), and receives an initially loaded first said pallet (4a); and a loading area (13), which is engaged by said second pickup means (28), is located at an output end of said processing path (P1), and receives an initially empty second said pallet (4b);

ordering means (35, 38; 63) located along said processing path (P1), upstream from said work station (45), to arrange the blanks (2) in each said group (5; 61) into a succession of individual blanks (2); and

regrouping means (47, 52; 64) located along said processing path (P1), downstream from said work station (45), to re-form said groups (5; 61);

wherein each said group (61) comprises a reel (61) of a strip (62) defined by a number of blanks (2) arranged in series and connected to one another; said ordering means (63) and said regrouping means (64) comprising an unwinding pin (63) for unwinding said reel (61), and, respectively, a rewinding pin (64) for receiving said strip (62) and forming the strip (62) into a new reel (61); said processing path (P1) extending between said two pins (63, 64), and guide means (67) being provided to guide said strip (62) along said processing path (P1) and through said work station (45).